

MISSOURI CONSERVATIONIST

VOLUME 82, ISSUE 12, DECEMBER 2021
SERVING NATURE & YOU





Capture the Memories

December is a perfect time to get outdoors with family and friends. Heading outside can be healthy and fun. A winter hike or scavenger hunt will entertain the senses. Help birds by making and hanging bird-friendly garland. Go eagle watching near open waters. If there's snow, look for animal tracks. Take in some night sky viewing, looking for meteor showers and constellations.

It's time to capture memories, and **Never Lose Touch**.



For ways to reconnect with nature, visit mdc.mo.gov/neverlosetouch.

Contents

DECEMBER 2021
VOLUME 82, ISSUE 12



FEATURES

10
Paws on the Ground
MDC's K-9 Unit blazes a new trail.
by Angie Daly Morfeld

17
Eating Local
Bringing your harvest from the field to your fork.
by Brian Flowers

22
Learning to Fly
Fly tying elevates your game.
by Pat Rigby

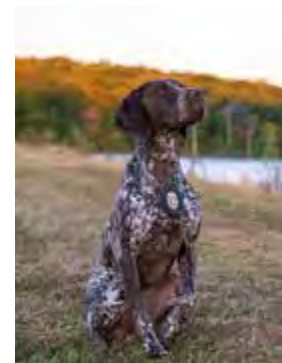
DEPARTMENTS

- 2 Inbox
- 3 Up Front With Sara Parker Pauley
- 4 Nature Lab
- 5 In Brief
- 28 Get Outside
- 30 Places To Go
- 32 Wild Guide
- 33 Outdoor Calendar



Brown trout

MISSOURI CONSERVATIONIST



ON THE COVER

Waylon is one of five commissioned canine officers with MDC's Protection Branch. Find out more on Page 10.

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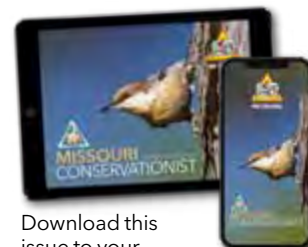
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Inbox



Letters to the Editor

Submissions reflect readers' opinions and may be edited for length and clarity. Email Magazine@mdc.mo.gov or write to us:

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PELICANS

What stupendous photos by Danny Brown of pelicans in the October issue! The shot on the cover made the bird appear as though it was standing on the water.

Jim Tayon, P.E.
Washington

MORE PELICANS

My wife and I first saw these magnificent birds in the mid-1990s. We were hiking a levy trail by the Mississippi River in eastern St. Charles County. It was bottom forest, reasonably mature, still winter-nude trees. Hiking, enjoying the solitude, and then above the barren treetops came v-shaped formation after v-shaped formation of what looked like huge silent pterodactyls. They passed, and we finished our hike in amazed silence. We found our car as we left it and our bird book transformed those pterodactyls into white pelicans. We have yet to have such a memorable walk in the woods.

Tim Miller via email

About 10 or 15 years ago, I had occasion to visit the Thomas Hill Reservoir located in Macon and Randolph counties for the first of several visits. I had never seen pelicans in Missouri, much less a flock. I was awestruck. They were beautiful and majestic. Thank you for the great story.

Mary Lee Chivetta Ballwin

PELICANS AND QUAIL

The story and photographs by Danny Brown in the October issue about white pelicans were very interesting [*Missouri's Visiting Pelicans*, Page 16]. Their 9-foot wingspan reminds me of the whooping crane and California condor.

I loved reading about the comeback of the northern bobwhite quail [*Bobwhites, Beef, and Bees*; September; Page 22]. Fifty years ago, I remember coveys of quail would flush up and scare us half to death when we'd go out to milk our dairy cows.

Mahlon N. Schwartz Seymour

INSPIRED

Rarely have my wife and I been as inspired as we were when we read Sara's *Up Front* column in the October issue [Page 3]. This led us to read the *Fish, Float, Fall Color* article [Page 22]. We then got inspired to take a 10-mile float on the Meramec River. Thanks to perfect weather, we had an awesome October float! The leaves were just beginning to turn color, but what we really noticed was the leaves falling into the river. We commented that we were usually too busy to pay much attention to falling leaves. Another treat for us was seeing a whitetail deer run across the river not far in front of us. Amazing! Thank you for providing us with the inspiration to enjoy the Missouri outdoors in the fall.

Bernie and Amelia Fortmeyer St. Joseph

START THEM YOUNG

While spending time at our house with our grandchildren, ages 3 and 5, they decided on their own to pick up two *Missouri Conservationist* magazines from our stack and look through them. We have always encouraged our grandchildren to learn about the world around them and looking at this wonderful magazine is the perfect place to start.

Rick and Michele Rouse House Springs

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or email Readerphoto@mdc.mo.gov.

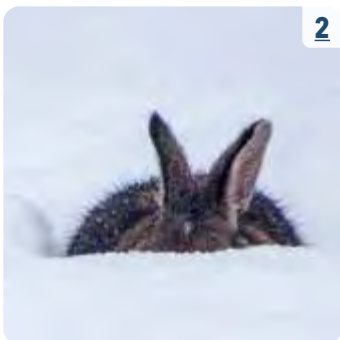


1

1 | Winter prairie
sunrise by **Dan
Peak**, via Flickr

2 | Rabbit in
snow by **Bill
Ekey**, via email

3 | Winter trout
fishing by
Karen McGillis,
via email



2



3



Want another chance to see your photos in the magazine?

➔ In the December 2022 issue, we plan to feature even more great reader photos. Use the submission methods above to send us your best year-round pictures of native Missouri wildlife, flora, natural scenery, and friends and family engaged in outdoor activities. Please include where the photo was taken and what it depicts.



Up Front

with Sara Parker Pauley

✖ **My first love was a dog named Yeller, a Labrador mix we'd found at the pound. I cared about our family's other hunting dogs — an English setter named Jinx, a Weimaraner named Weimar — but they were fixated on other things, like escaping our fenced yard to chase birds and cars and running from the dog catcher. But Yeller would look deep into your eyes, perceive your moods, and generally wanted to be with his people.**

I fell for my husband because of my golden retriever, Stormy. We had dated for a while, but I still wasn't sure about our future together. Then Stormy fell sick to cancer. I overheard a conversation my husband (boyfriend at the time) had with her as she lay dying. He said he knew she had taken care of me through some difficult times, she had served honorably, that she could be assured he would take care of me when she was ready to go. And that was that — my heart melted for good — and we married just months later. Long way of sayin' — I'm a dog person.

I especially appreciate dogs that will look you in the eye, know their role in life, and want to serve honorably. And in this month's issue (Page 10), we introduce you to the members of MDC's new canine unit that meet those criteria to a T. These four-legged ambassadors are already getting the job done. From evidence retrieval to public outreach, they are public servants extraordinaire.

I think I've fallen in love again.

Sara Parker Pauley

SARA PARKER PAULEY, DIRECTOR

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Printed with soy ink



Nature LAB

by Dianne Van Dien

Each month, we highlight research MDC uses to improve fish, forest, and wildlife management.

WETLAND MANAGEMENT

Deciphering the Habitat Needs of Secretive Marsh Birds

✖ Because they lurk deep in the weeds and reeds of wetlands, bitterns and rails are difficult to spot and study — hence they are called “secretive marsh birds” (SMBs). In the Mississippi Flyway, where many SMBs are species of conservation concern, an interagency group of Canadian and U.S. biologists (including MDC staff and others from Missouri) is working on how to best conserve them.

To assess how SMBs use habitat throughout the flyway, this group collaborated with University of Missouri researchers on a meta-analysis. “A meta-analysis,” explains postdoctoral researcher Kristen Malone, “combines results from other studies to generate broader results.” Malone read more than 1,000 studies on SMBs to find data for this analysis.

SMBs breed, migrate, and winter in different portions of the flyway. Thus, this flyway-scale study is important, says U.S. Geological Survey researcher Lisa



Secretive marsh birds, like this American bittern and Virginia rail (inset), are difficult to study because they live deep in wetland vegetation. To aid conservation efforts, biologists are working to learn more about how these birds use habitat.

Comprehensive study of marsh bird habitat helps inform conservation efforts across the Mississippi Flyway

Webb, “so that wetland management can be better coordinated throughout the flyway as opposed to being done on a state-by-state basis.”

Study results indicate that SMBs need wetlands that have “robust, emergent vegetation” — plants like cattails and bulrushes — and they are more likely to be found in wetlands that have other wetlands nearby. Wetlands in urban areas harbor fewer SMBs. Malone explains that the study also “highlighted gaps in our knowledge about these species. The biggest gap is lack of information during the nonbreeding season.” Filling this gap would enhance conservation of SMBs throughout their lifecycle.

Webb says a second phase of the project is now underway “to understand how wetland management practices can influence habitat for marsh birds. Results from the study can help identify areas where tweaks in management practices could improve conditions for marsh birds.”

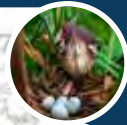
Marsh Bird Habitat Study at a Glance

People:

Mississippi Flyway’s Nongame Bird Technical Section (biologists from 14 states and three Canadian provinces) and University of Missouri researchers

Study species:

American bittern, least bittern, sora, Virginia rail, king rail, yellow rail



Least bittern



Sora



King rail

Numbers show studies per state or province with data used in the meta-analysis of marsh bird habitat in the Mississippi Flyway. 85% of the studies took place during the breeding season, 15% during migration, and none during winter. The complete study is published in *Avian Conservation and Ecology*, Vol. 16 (2), Article 12. doi.org/10.5751/ACE-01924-160212

In Brief

News and updates from MDC



Bald eagles are usually seen near lakes and rivers as they look for fish. For more information on bald eagles, visit our online *Field Guide* at short.mdc.mo.gov/ZFb.

MDC OFFERS SPECTACULAR EAGLE WATCHING

DISCOVER NATURE THROUGH MDC'S EAGLE DAYS EVENTS AND OPPORTUNITIES AROUND THE STATE

➔ From December through February, Missouri's winter eagle watching is spectacular. Because of Missouri's big rivers, many lakes, and abundant wetlands, the Show-Me state is one of the leading lower 48 states for bald eagle viewing. Each fall, thousands of these great birds migrate south from their nesting range in Canada and the Great Lakes states to hunt in Missouri. Eagles take up residence wherever they find open water and plentiful food. More than 2,000 bald eagles are typically reported in Missouri during winter.

Watch for eagles perched in large trees along the water's edge. Early in the morning you can see them flying and fishing. Be sure to dress for winter weather and don't forget cameras and binoculars.

Eagle Days Events

MDC is again offering Eagle Days events around the state. Some events will include live eagle programs, exhibits, activities, videos, and guides with spotting scopes. Some events require registration. Locations include:

- **Loess Bluffs National Wildlife Refuge**, near Mound City, Dec. 4, 9 a.m.-4 p.m., and Dec. 5, 10 a.m.-4 p.m.
- **Smithville Lake at Paradise Pointe Golf Course Clubhouse** in Smithville, Jan. 8, 2022, 9 a.m.-3:30 p.m., and Jan. 9, 2022, 10:30 a.m.-3:30 p.m.
- **Old Chain of Rocks Bridge**, south of I-270 off Riverview Drive in St. Louis, Jan. 15, 2022, 9 a.m.-3 p.m. Preregistration is required for each of the live eagle program time slots at 9 a.m., 10 a.m., 11 a.m., 12 p.m., 1 p.m., and 2 p.m.
- **Springfield Conservation Nature Center** in Springfield, Jan. 15, 2022, 9 a.m.-4 p.m., and Jan. 16, 2022, 12:30-4:30 p.m. Preregistration is required.
- **Lock and Dam 24 and Apple Shed Theater** in Clarksville, Jan. 29, 2022, 11 a.m.-4 p.m., and Jan. 30, 2022, 11 a.m.-3 p.m.
- **Runge Conservation Nature Center** in Jefferson City, Jan. 22, 2022, 9 a.m.-1 p.m. Preregistration is required.

For more info on Eagle Days events, visit mdc.mo.gov/events and search Eagle Days.

continued on Page 6 »

EAGLE DAYS (continued from Page 5)

Eagle Watching on Your Own

Can't make an MDC Eagle Days event? Other local events and hot spots for winter eagle viewing include:

- Eagle Bluffs Conservation Area on Route K, southwest of Columbia
- Lake of the Ozarks at Bagnell Dam Access, east of Bagnell
- Lock & Dam 20 in Canton
- Lock & Dam 24 at Clarksville
- Lock & Dam 25, east of Winfield
- Loess Bluffs National Wildlife Refuge, south of Mound City
- Mingo National Wildlife Refuge, northwest of Puxico
- Moses Eagle Park in Stella
- Old Chain of Rocks Bridge, south of I-270 off Riverview Drive in St. Louis
- Riverlands Environmental Demonstration Area, east of West Alton
- Schell-Osage Conservation Area, north of El Dorado Springs
- Smithville Lake, north of Kansas City
- Stockton Lake, near Stockton
- Swan Lake National Wildlife Refuge, south of Sumner
- Table Rock Lake and Shepherd of the Hills Fish Hatchery, southwest of Branson
- Truman Reservoir, west of Warsaw.

GIVE NATURE-THEMED GIFTS THIS HOLIDAY SEASON

Have nature lovers on your holiday gift list? MDC's online Nature Shop makes holiday shopping a breeze for anyone interested in nature-themed gifts. Offerings include the ever-popular *Natural Events Calendar*, a variety of books, and more for all ages.

Purchase items through the MDC online Nature Shop at mdcnatureshop.com, by calling 877-521-8632, or at one of MDC's nature centers located across the state. Nature centers are located in Kirkwood, Cape Girardeau, Springfield, Kansas City, Blue Springs, and Jefferson City.

Order early in anticipation of slower shipping deliveries. Applicable tax, shipping, and handling costs will apply.

Also, remember hunters and anglers on your list. Hunting and fishing permits make great gifts. Buy permits from vendors around the state, online at mdc.mo.gov/buypermits, or through the MDC free mobile apps, MO Hunting and MO Fishing, available for download through Google Play for Android devices or the App Store for Apple devices.

Ask MDC

Got a Question for Ask MDC?

Send it to AskMDC@mdc.mo.gov
or call 573-522-4115, ext. 3848.

Q: We had this bird at our feeder recently. What species is it?

➔ One of the best-known U.S. songbirds, the northern mockingbird, part of a family of birds called mimics, repeats phrases from songs of other birds and seems to sing endlessly, night and day.

In summer, northern mockingbirds forage on insects, spiders, lizards, snakes, crayfish, and fruits. As with most wintering fruit-eating birds, they will come to feeders stocked with fruits, such as raisins and cranberries, but they also appreciate mealworms. Their ability to switch back and forth between insects and fruits enables them to find food during the winter when insects are scarce. Planting native shrubs that provide winter fruits like flowering dogwood or winterberry are essential for overwintering fruit-eaters like mockingbirds. Mockingbirds defend certain fruit-bearing



Northern mockingbird

shrubs all winter, reserving them for their own food supply.

To learn more, visit MDC's online *Field Guide* short.mdc.mo.gov/ZFC.

Q. Squirrels' nests seem to be very well constructed. How do they make them so sturdy?

➔ Squirrels' leafy treetop nests may be more visible in winter, but tree cavities are the preferred homesites, especially for winter and for nurseries since they provide better protection from weather and predators.

Suitable cavities occur most often in older, deciduous trees. Filled with leaves that serve as a warm lining for the young, the typical cavity is about 6 inches wide and 15 inches deep, with a 3-inch entryway.

In contrast, leaf nests are usually built in the tops of large trees about 40 feet above the ground. A leaf nest consists of a rough twig framework — 12 to 20 inches across — and a



Squirrel nest



Needle ice

bulky pile of leaves heaped layer upon layer. The squirrel hollows out a nest cavity in the center of the leaves. Summer-built nests are flimsy affairs crafted from green leaves and twigs. Winter-built nests are made of bare twigs with separate leaves interlaced in the framework. The inside cavity is reached through a hole in the side of the nest.

Leaf nests can be constructed in less than 12 hours. If well-made and repaired, they usually last for six to 12 months. However, some large, refurbished nests may last 2-3 years.

Q: Last winter, we noticed something that resembled frost grass at the base of a large boulder. The ice looked as if it grew from the ground. What caused this phenomenon?

➔ This is needle ice. Like frost flowers — which occur when moisture is extruded from the stem of a plant and freezes in curly ribbons — needle ice forms when the air is freezing, but the ground is not. Water rises to the surface by capillary action, freezes, and contributes to a growing needlelike ice column.



Matt Wheaton

MORGAN COUNTY
CONSERVATION AGENT

offers this month's

AGENT ADVICE

Quail season opened Nov. 1 and runs through Jan. 15. This small-game hunting season is a perfect time to get out and enjoy nature with family and friends. Unlike deer and turkey hunting, which requires long stints of sitting quietly in the cold, quail hunting is an active sport. Finding birds requires long walks in appropriate habitat — brushy timber draws, along fence rows, and fields of native grasses. Take the family and make memories along the way. Many people use dogs on quail hunts, and it's a joy just to watch the dogs run. Remember, since you're on the move and in groups, hunter orange is highly recommended. As we've moved toward the bragging rights associated with big-game hunting, we've lost the simple pleasures of small-game hunting. Get out there and recapture it this winter!

What IS it?

Can you
guess this
month's
natural
wonder?

*The answer is on
Page 9.*





VENISON IN A PUMPKIN

This recipe is a feast for the eyes as well as the stomach! This hearty stew will not only fill you up, but it will also warm you up on those cold winter days. But not to be outdone is the presentation. The pumpkin-turned-soup tureen is sure to delight your friends and family and be quite a conversation piece.

Serves 8

INGREDIENTS:

- 1 10- to 12-pound pumpkin with stem
- 3 tablespoons vegetable oil
- 2 pounds venison stew meat, cut in 1-inch cubes
- 1 cup water
- 2 cups organic, low-sodium beef broth
- ¾ cup unsweetened coconut
- 1/3 cup dried apricots, chopped
- 2 large russet potatoes, cubed
- 2 medium sweet potatoes, cubed
- 4 carrots, cubed
- 1 large fresh sweet pepper (or combination of sweet and hot peppers), chopped in bite-sized pieces
- 1 teaspoon hot-pepper flakes (optional)
- 4 garlic cloves, minced
- 1 onion, chopped
- 2 teaspoons salt
- Large pinch freshly ground black pepper
- 1 15-ounce can diced tomatoes



WASH pumpkin, cut off top, leaving a hole large enough from which to ladle stew after it has baked. Set pumpkin top aside. Remove seeds and pulp. Place pumpkin in a large baking pan and set aside.

HEAT 2 tablespoons oil in a large saucepan over medium-high heat. Place venison in the pan and cook until browned. Mix in the water, 1 cup of broth, and remaining ingredients (except tomatoes). Bring to a boil, then reduce heat, cover, and simmer 2 hours, stirring occasionally.

PREHEAT oven to 325 F. Stir tomatoes and remaining cup of broth into the stew mixture. Wet pumpkin stem and wrap it with aluminum foil. Fill pumpkin with stew and fit the top back onto the pumpkin. Brush outside of the pumpkin with remaining tablespoon of oil. Bake 2 hours or until tender.

SERVE the stew from the pumpkin, scraping out some of the pumpkin meat with each serving. Accompany with dense, crusty French bread.

This recipe is from *Cooking Wild in Missouri* by Bernadette Dryden, available for \$16 at mdcnatureshop.com. Order early in anticipation of slower shipping deliveries. Applicable tax, shipping, and handling costs will apply.

ENJOY WINTER TROUT FISHING

MDC staff have stocked about 80,000 rainbow trout in more than 35 urban-area lakes around the state for winter trout fishing. Many of these areas allow anglers to harvest trout as soon as they are stocked, while others are catch-and-release until Feb. 1. Find locations at short.mdc.mo.gov/ZF3.

The daily limit for catch-and-keep at these locations is four trout with no length limit. All Missouri residents over age 15 and under age 65 must have a fishing permit. All nonresidents over age 15 must have a fishing permit. To keep trout, all anglers of all ages must have a Missouri trout permit.

Buy permits from vendors around the state, online at mdc.mo.gov/buypermits, or through our free mobile app — MO Fishing — available for download through Google Play for Android devices or the App Store for Apple devices.



MIKE SZYDLOWSKI RECEIVES MASTER CONSERVATIONIST AWARD

The Missouri Conservation Commission and MDC congratulate Mike Szydlowski of Columbia on being the latest recipient of the Master Conservationist Award. Szydlowski is a resource professional and the K-12 science coordinator for the Columbia Public Schools District.

The commission presented the award to Szydlowski on Oct. 21 in conjunction with a ribbon cutting ceremony at the construction site of the Boone County Nature School.

Szydlowski continues to be instrumental in the development of the school in partnership with MDC. This groundbreaking conservation effort is a future magnet school for fifth graders throughout Boone County. It will feature indoor and outdoor classroom space and laboratory space designed to connect students with nature through hands-on learning. An opening date is still being determined.

When completed, the 111-acre campus located on the Waters-Russell Unit of Three Creeks Conservation Area (CA) will feature a sustainably designed nature school building, an outdoor pavilion, a unique council house structure, restored native habitats and native crops, a fishing pond, and access to trails that lead to a landscape of streams, caves, and sinkholes on Three Creeks CA. Each year, nearly 11,000 students will attend the school for five 10-day periods for specialized conservation-related learning. Learn more at boonecountynatureschool.com.

"Mike embodies and lives the conservation mission in everything he does, especially lighting that spark in kids to learn about and be active in conservation," said MDC Director Sara Parker Pauley. "He's also been pivotal, along with Columbia Public Schools, in our collaboration on the new Boone County Nature School where fifth graders in Boone County will get to be out in nature and learn about our natural resources through the lens of the environment, culture, and economics. We are incredibly thankful for Mike's passion and proactive approach to connecting the next generation



The Missouri Conservation Commission and MDC congratulate Mike Szydlowski of Columbia on being the latest recipient of the MDC Master Conservationist award. Shown are Szydlowski with his award and MDC Director Sara Parker Pauley.

of conservationists to nature and getting them excited about science."

Szydlowski was nominated for the Master Conservationist Award by Missouri River Relief for his extensive and ongoing commitment to conservation. Missouri River Relief is a nonprofit dedicated to connecting people to the Missouri River.

Szydlowski is the 65th recipient of the Master Conservationist Award, which was first presented in 1942. The award honors living or deceased citizen conservationists, former MDC commissioners, and employees of conservation-related agencies, universities, or organizations who have made substantial and lasting contributions to the state's fisheries, forestry, or wildlife resources, including conservation law enforcement and conservation education-related activities. Learn more at short.mdc.mo.gov/Zyp.

WHAT IS IT? REDHEAD

The redhead has a distinct chestnut-red head and a blue bill with a black tip. A member of a group of ducks called pochards, or diving ducks, redheads dive completely underwater to forage. They have smaller wings relative to their body weight, so they work harder to take flight from the water's surface. They run along the surface of the water to gain speed and lift until they are airborne.





Paws on the



It's a muggy mid-September morning in southwest Missouri. A gunshot is heard in an isolated wooded area. Soon after, a man is seen exiting through a tree-lined path, but without a firearm.

MDC Corporal Susan Swem, conservation agent for Polk County, reports to the area. She surveys the scene and is ready to investigate with the help of her partner. She readies her partner's equipment — tracking harness, 15-foot lead, and yellow, rubber ball.

Swem's partner, a Labrador retriever named Astro, is one of five dogs that officially joined MDC's Protection Branch's K-9 Unit in May 2021.

Swem outfits Astro with his harness, and with a distinct click, attaches his lead. With that, he now knows it's time to track. His nose pressed firmly to the ground, he takes off "like an out-of-control garden tiller," jokes Swem, running on an open path alongside a wooded area. He is tracking a human scent, and he stays on it despite Swem's attempts at "checking him" by pulling on his lead.

As they head into the woods, she changes his assignment with just one word, "Search." With that, he changes course. Nose still firmly planted, now he is concentrated on article detection. He's looking for *something*, rather than *someone*. And he finds it within minutes — a firearm discarded in a pile of leaves. He stands still, indicating to Swem he was successful. She praises him with a couple of "good boy" affirmations, but then it's back to work. She commands him to "search" again.

This time, she wonders if along with the firearm, the shooter may have disposed of spent shell casings and other ammunition. In no time, her hunch is confirmed. Astro is circling an area and finally zeroes in on a spent shell casing.

For his hard work, he is rewarded with his favorite toy — a yellow, rubber ball. And just like that, he is off duty, running and playing fetch with Swem — his handler, partner, and constant companion. To the naked eye, he looks like any other yellow Labrador retriever.

Astro is on the case, tracking scent in an open field. Inset: Astro sits next to his handler Corporal Susan Swem.

Ground

MDC'S K-9 UNIT
BLAZES A NEW TRAIL

by Angie Daly Morfeld
photographs by Vince Crawford



Astro



Korra



Tex



Waylon

“Our dogs are concentrating on human search and rescue, evidence search and recovery, wildlife detection, and public programs.”

—Captain Russell Duckworth



Penny

Building the Team

Astro joins fellow K-9 Unit staff Tex, a German shorthaired pointer (and handler Corporal Alan Lamb) in the southeast region; Korra, a Labrador retriever (and handler Corporal Justin Pyburn) in the Kansas City region; Penny, a Labrador retriever (and handler Corporal Don Clever) in the northeast region; and Waylon, a German shorthaired pointer (and handler Corporal Caleb Pryor) in the northwest region. The K-9 Unit is part of MDC’s Protection Branch, which is the law enforcement arm of the department, responsible for enforcing established rules and regulations.

MDC is the 37th conservation agency in the nation to welcome a K-9 unit to its protection ranks to greatly aid in their resource law enforcement work.

“Many states started units years ago — as early as the 1970s — and have been overwhelmingly successful, especially in evidence recovery,” said Captain Russell Duckworth, Southeast Region, who was instrumental in establishing the program. “So, we didn’t have to reinvent the wheel. We relied

on these states to show us the way. Gathering information from them helped us when it came time to assemble our policy and pick our handlers.”

And if you want an effective program, it all comes down to the handlers, according to Protection Branch Deputy Chief Dean Harre.

“We aren’t adding extra agents to our ranks, but four paws to the ground,” Harre said. “That is relatively cheaper, so that’s huge to us as a department. To bring about the best possible program for Missouri, it is important to have the best handlers. You want experts in their field and experts with the canines.”

The new K-9 handlers were chosen from existing agents, who all had multiple years as agents and some experience with dogs, whether it be through hunting, breeding, or raising the family pet.

For Corporal Clever, joining the K-9 Unit was a dream come true.

Although MDC's canines are law enforcement working dogs, at the end of the day it's important to remember that they are still fun-loving dogs who simply want to please their handlers.

"It was always a dream of mine to be a K-9 officer," said Clever. "I wanted to ensure this program succeeded, and I knew the only way I could do that was to become part of the handler team. With this program being the first of its kind for the department, I want to be able to look back in 50 years and say, 'I was part of that!'"

After 32 years as an agent, Swem echoed Clever's sentiments.

"It was something I always wanted to do," she said. "I just wish it would have happened earlier. It's like the cherry on top of the sundae of my career."

Picking the right personalities that go with the dogs is equally important, according to Harre.

Breed preference varies based on the work performed. Some states use single-purpose dogs, meaning the dog is trained specifically for detection work in a nonaggressive manner, which proves to be very important when locating missing or endangered persons. These dogs tend to come from sporting breeds, like retrievers. Other states use dual-purpose canines, which are typically viewed as more aggressive breeds like Belgian Malinois and German shepherds. These dogs are specifically trained to provide personal protection and work in more dangerous scenarios.

"We knew we wanted approachable, single-purpose dogs," said Duckworth. "Our dogs are concentrating on human search and rescue, evidence search and recovery, wildlife detection, and public programs."

After a nationwide search and lengthy bid process for suitable law enforcement-oriented dogs, the handler agents chose their canines.



To learn more about MDC's K-9 Unit, tune into our Nature Boost podcast at mdc.mo.gov/natureboost. It is also available on Apple Podcasts, Spotify, PodcastOne, or wherever you listen to your podcasts.

Training in Indiana and Beyond

The dogs did not come to MDC ready to work, so they immediately started training. For the first two months in Missouri, the dogs and their assigned handlers worked on basic discipline — sit, stay, and other obedience commands.

By February 2021, they were ready to start training for field work. The handlers and their canines traveled to the Indiana Department of Natural Resources to attend the 2021 Indiana Canine Resource Protection School, which has been around for more than 20 years.

“We went with Indiana because they have a long track record of turning out successful teams,” Duckworth explained.

The unit attended the academy for nine weeks total in three-week intervals— three weeks on, three weeks off. The timing allowed the handlers and canines to learn skills — like scent detection, tracking, article search, and more — through three months of seasons and weather patterns similar to what they might encounter in Missouri.

The training didn’t end after the teams’ May 14 graduation.

“They are like diamonds in the rough,” Swem said. “They need constant polishing.”

Pryor and Lamb both likened the dogs to professional athletes.

“One thing you can’t fake is a dog’s performance,” Lamb said. “If we want a successful program, we have to keep training the dogs to be prepared to hit the field.”

So, training simply becomes part of the daily routine. Pyburn mixes in daily training with his regular patrol. He may hide an article, go about his day, and then an hour or two later, allow the dog to train by finding the hidden item.

Even feeding the dog incorporates training, Pryor said. His dog must sit and stay until he releases him to eat.

Pryor and Swem say working with other conservation agents and other agencies within their assigned counties — sheriff’s offices, highway patrol, and police departments — makes their dogs that much better.

“My dog is already trained on my scent,” Pryor explained. “We want the

dogs to train with as many different scents as possible, so it’s a lot easier working with another K-9 officer.”

Harre said in addition to the daily training, the Protection Branch’s K-9 Unit comes together monthly for about two days to train as a unit and hone their specialized skills.

“Penny is enthusiastic when it comes to her training because it is all a game to her,” said Clever. “When she finds what she’s supposed to, she is rewarded with a toy and gets to play.”

Corporal Pyburn agreed. “The dogs go to work to get paid just like we go to work to get paid. Except they get paid in treats and toys.”

Canines and handlers go through detailed training together to create successful teams for field work and outreach programs.





Ready to Serve



The canines in MDC's K-9 Unit are always ready and willing to go to work.

The dogs became commissioned conservation agents — complete with their own badges — at a Missouri Conservation Commission meeting on May 21.

The canines have four main functions: public programs, tracking, evidence search and recovery, and wildlife detection.

Public Programs

Most of their time will be spent in outreach and education, representing the department in public venues like fairs, school programs, and public forums.

"We want the program to help us reach a wider, more diverse audience and break down barriers," Harre said. "The more we get out in front of people, the more we can build relationships with the public and build this program."

Tracking

Tracking will also take up a large portion of their time. Tracking involves following human scent on any number of calls from trespassing to a missing person to assisting another law enforcement agency when a suspect has fled on foot.

When the canine is called into a tracking situation, it's imperative for the handler to know the dog.

"Learning to read your dog is probably more important than the dog learning to track," Pryor said. "It's minute things we have to pay attention to. If we didn't know how to read the dog, we wouldn't get anywhere."

Swem agrees. "If you're going to track, you have to trust your dog. He's taking you in a direction for a reason."

Communication is key.

"She will talk to you if you know how to listen," Clever said about Penny. "The longer we've trained and worked together, the easier it has become to understand what she is telling me. I've had to learn her language and her 'tells,' and it's made us stronger."

Missouri Conservation Commissioner Margy Eckelkamp bestowed the official conservation agent badge on Waylon, a four-year-old German shorthair pointer, partnered with Corporal Caleb Pryor in the northwest region.

Search and Recovery

Suspects often discard evidence along the way — a firearm is left in brush, a flashlight is thrown from a truck window, a cell phone falls out of a pants pocket, spent shell casings and bullets are flung in desperation. Agents may spend hours searching and never recover evidence needed in a case. But a dog, whose sense of smell is 44 times better than that of a human, can cover ground quicker and recover evidence faster.

"There are things they can find that we just can't as humans," Duckworth said. "The dogs' noses give us a better capability. There are things I could spend days trying to find, but the dog is able to find it in short order."

Wildlife Detection

While not technically hunting dogs, these canines can detect deer, turkey, waterfowl, and more, which comes in handy during poaching investigations and cases.

Tex and Corporal Lamb were called out during opening weekend of teal season. A neighboring agent witnessed two hunters harvest wood ducks, a protected species, during teal season. The hunters admitted to the illegal harvest, but without the ducks, the agent didn't have much of a case.

"Tex was called out to try to locate the waterfowl," Lamb explained. "Within minutes, he found the first wood duck stomped in the marsh. Then he found the second one. We wouldn't have been able to find those ducks without the dog."

On average, canines employed in K-9 units work about seven to eight years. Their time of service depends on many factors, including breed and health. At the end of their service, canines in the MDC K-9 Unit will be offered full retirement in the home of their agent handler.

Canines Off Duty

The canines enjoy their rewards, which usually signal down time, but for an agent in the K-9 Unit, there really isn't an off duty.

"As an agent, you're already not off when you're off," Pryor explained. "You're on call 24-7, but even more so now. When I'm not working, I'm training my dog. Becoming an agent is a lifestyle change but becoming a K-9 officer is an even bigger adjustment."

Unlike human partners who go home at night, these four-legged partners stay with their agents, Harre said.

"She's 100 percent reliant on me," Clever said. "I have to constantly be aware of her needs and ensure that they are always met and that all of her equipment is in good working order and is with us."

That includes food and water in case they are called out and gone longer than expected. It also includes being mindful of their well-being every day, just like you would a child or family pet.

"I do a head-to-toe check of my dog after a deployment because they can't tell you if they are hurt," Lamb said. "These dogs are more than our partners. They are our friends, and we have to take care of them the best we can."

They are resource law enforcement working dogs, but they are also part of the handler's family, Harre said.

"We want the dogs to be social; we want them to be introduced to the handler's family and taken care of and treated like any other animal the family might own," Duckworth said. "They are kenneled at the handler's home, watched closely to make sure they are healthy and have proper veterinary care, and fed with the most nutritious food."



The dogs enjoy down time with their handlers and meeting new friends.



Into the Future

Though the program is still in its infancy, the Protection Branch is already looking toward the future, hoping to see the K-9 Unit expand to additional dogs across the state.

"I know we will find new ways for the dogs to work that we haven't even thought of yet," said Duckworth. "That will be so rewarding — to see this unit expand into areas and be useful in ways we haven't even imagined."

Canine use in the conservation field is rapidly evolving. For example, research is underway to determine if canines can detect prions associated with chronic wasting disease in cervid populations.

"The sky is the limit as far as the dogs go," Harre said. "The only limit is the handlers. The capability of the dogs is endless." ▲

Angie Daly Morfeld is the editor of the Missouri Conservationist. She cannot put into words how much she enjoyed working on this story and spending time with these dogs.

A full-page photograph of a hunter in camouflage clothing and a cap, sitting on the forest floor and leaning against a large tree. He is holding a shotgun and looking off to the side. The forest is lush with green foliage and sunlight filtering through the trees.

Eating Local

BRINGING
YOUR HARVEST
FROM THE
FIELD TO
YOUR FORK
by Brian Flowers

A hunter takes
to the woods to
source his own
wild game.

PHOTOGRAPH BY
DAVID STONNER

It seems that everywhere you look these days, there's a message about what you should or shouldn't eat. More and more, Americans are conscious of where their food comes from and how it got to their table. Terms like "locavore," a person whose diet primarily consists of food grown or produced locally, or "organic," food that is grown or made without artificial chemicals, have made their way into our everyday language.

For many Missourians, hunting, fishing, and foraging provide a welcome supplemental source of protein and natural healthy food. While my wife, JoAnne, and I still shop at the local grocery store, we enjoy supplementing our meals by raising a backyard garden and foraging for wild edibles. Last summer, we grew tomatoes, onions, lettuce, chard, broccoli, cauliflower, and green beans. All of this in a small 6- by 40-foot plot in our urban backyard. We also ease our food budget by gathering wild mushrooms and utilizing the wild game I bring home from my favorite activity — hunting.

I started hunting and fishing as a child, mentored by family and friends, and I was lucky to have a wooded area right across the road from my house. I spent many days wandering and exploring nature. As I got older, I became more successful and that meant food for the table. I harvested my first deer and several turkeys within a stone's throw of my childhood home. I remember being ill-prepared for processing my first deer and calling on my schoolteacher Mr. McLeary to guide me in field dressing it.

To this day, I've continued to supplement our family meals with wild game, a resource that's available to all of us. For those wishing to do the same, let's break it down and examine how you can start going from field to fork.

Small Game: Squirrels

Growing up in south-central Ozarks, I had a leg up when it came to finding wild game to hunt. It seemed that wild places were literally just down the road or around the corner. Because they were abundant, one of the first species I learned to hunt were squirrels. On the spectrum of difficulty, squirrel hunting doesn't require special equipment, techniques, or skills to master. While some may see the squirrel as a backyard nuisance or a birdseed thief, squirrels can form the basis of some of the most delicious wild game meals you can enjoy.

Most all hunting comes down to finding where the game want to be. For squirrels in the late summer and fall, that means large hickory or oak trees. Missouri has two species of tree squirrels — fox squirrels, called "red squirrels" by many, and eastern gray squirrels. Fox squirrels are the larger of the two species. They tend to be found near the edges of timber stands, in isolated woodlots, and open woods without much understory, along timbered ridges and uplands, and even in hedgerows. Grays are more likely to occur in extensive tracts of forest and bottomlands, but it's not unusual to find both species using the same area. No matter which you hunt, you'll want to choose younger squirrels, which will provide tender meat for the table.



Squirrel hunting is an activity that can be enjoyed by hunters of all ages.



A bit of scouting will help you find public conservation areas with hickory and oak trees. You'll find that squirrels in August and September will be high in the tree canopy, cutting and eating nuts. Hunters can utilize the tree cover to stalk within easy range of feeding squirrels. Move slowly through the woods, scan the treetops for movement, and listen for the sounds of rustling leaves, indicating squirrels jumping from limb to limb. Also watch the ground for freshly cut nut hulls. If you find fresh cutting sign, find a comfortable seat and relax, you'll most likely see squirrels soon. As the fall progresses and trees lose their leaves, you may hunt by posting up under larger trees and waiting for squirrels to make an appearance.

Either way you choose to hunt, you'll want to wear camouflage clothing and be conscious of your movements and noise while in the woods. A .22 caliber rifle, .410, or 20-gauge shotgun are the preferred firearms for effectively taking squirrels.

Kevin Lohraff, manager of the Runge Conservation Nature Center in Jefferson City, loves to squirrel hunt and from an early age enjoyed homemade meals of squirrel and wild game.

"I love hunting squirrels," Lohraff said. "They are practically everywhere, and I don't have to travel far to find them. They live in nearly all wooded public land and since squirrel season is long, I can fit a squirrel hunt between other hunts, floats, and fishing trips from early summer through winter."



Squirrel and dumplings

Squirrel and dumplings, one of Kevin's favorite recipes, can be found in *Cooking Wild in Missouri* by Bernadette Dryden.

Cut three squirrels in pieces and boil for 1½ to 3 hours until just before the meat begins to fall off the bones. Remove pieces from the pot and set broth aside for later use. Roll pieces in seasoned flour, and brown them in a little oil in a big cast-iron skillet (make sure it is deep and has a good-fitting lid). Remove the squirrels and set aside. Then get busy making lots of gravy.

To make gravy, add hot broth to the skillet containing the drippings. Stir well. In a cup, mix some of the broth with flour to make a paste. Add that to the pan and whisk until gravy is thickened to your satisfaction. At this point, I usually add sauteed mushrooms and fresh garlic, parsley, and black pepper. Add squirrel pieces to the gravy.

Make the drop biscuits using your favorite recipe. Drop the batter by heaping tablespoons atop the meat and gravy in the skillet. Place lid on tightly and cook on top of the stove until the dumplings are done.



Squirrels are just like other game — the meat is only as good as the care taken in field dressing and preparing it. For more information on field dressing your harvested squirrels, visit short.mdc.mo.gov/Zyj.





Fast Flying Game: Dove

The mourning dove is one of the most popular game bird species. Annually, as many as 900,000 people hunt doves in the U.S. When looking for

how to prepare dove for the table, you'll likely find a variety of ways to enjoy your harvest. From dove on the grill wrapped in bacon, and casseroles made with dove, to dove dumplings, it's easy to turn this game bird into magnificent table fare.

Missouri is home to three species of doves, including the mourning dove, white-winged dove, and Eurasian collared-dove. Doves feed on a variety of planted crops and natural food. Harvested wheat stubble, corn silage, and sunflower fields are the most popular places to find doves. A pond with an exposed bank adjacent to feeding areas is also a sure bet. I often see doves loafing in the tops of dead trees close to feeding areas.

No matter which area you choose to hunt, you'll need to do plenty of scouting first to ensure a good hunt. Doves are very sensitive to hunting pressure, so just because you have a good shoot today doesn't mean it'll happen tomorrow. Doves are also migratory, so as fall temperatures begin to decline, so do dove numbers as they move south.



Dove hunting doesn't require a lot of equipment to get started. A 20- or 12-gauge shotgun with shot in size 7½ or 8 will do just fine. A prepared hunter will have camouflage clothing and a chair or bucket to sit on in the field. While hunting doves won't require a lot of equipment, it does demand that you practice some wing shooting before going afield. Practice with your shotgun before the season by shooting clay birds at a target range. Shooting left and right crossing targets will ensure you're ready for fast flying doves when the season starts.

Doves are easy to field dress and prepare for the table. First remove the skin and feathers exposing the breast. Then pull gently on the breastbone to remove it from the carcass. The breast meat can be filleted from the bone, cleaned properly with cool water removing any shot, feathers, or damaged meat. You may choose to marinate the dove breast overnight or just send them right to the grill. Sprinkle the breast with a bit of garlic salt and black pepper, then wrap in a half slice of bacon with a slice of jalapeño and some cream cheese. Secure with a toothpick. Grill 3–5 minutes or until bacon is crisp.



Dove kabobs make a tasty appetizer to most any meal.



Fast Food: Venison

Annually 500,000 people in Missouri hunt whitetail deer. Deer seasons are long, running generally from September 15 to January 15, and deer can be found in all 114 counties of the state. Combine season length, abundance, and over 2.5 million acres of public hunting lands and this is a formula for success. Deer season is a long-standing tradition in Missouri with many hunters joining annual hunting camps where stories are told around campfires, hunters catch up on the latest gossip, and good food is shared.

The first lesson for a new deer hunter is preparation, and one of the most important elements is scouting. I normally begin by looking at satellite images of the area I'll be hunting. I look for potential feeding areas and bedding areas. Well ahead of the season I take a hike to confirm what I've seen on maps and photos. One of my favorite tips is to find "funnels," areas where deer travel between bedding, feeding, and loafing areas. If you can locate these areas, you're almost assured of a successful hunt. Just like people, deer are creatures of habit and successful hunters take the time to learn those habits and behaviors in their area.

Be conscious of your scent and which way the wind may be carrying it. Find areas where you're able to stay downwind from potential deer travel corridors and trails. Deer hunting doesn't require special expensive equipment to get started. A basic bolt action rifle in a larger caliber or archery equipment is a must but building a ground blind or just learning to sit still under a large tree are skills that anyone can master.

My favorite recipe for venison is smoked jerky. When processing my deer, I save a portion for grinding, removing as much of the white connective tissue as I can. Once ground, I use any number of commercially available jerky seasoning mixes. You'll mix your ground meat with the jerky seasoning mix and cure. Let it sit for 24–48 hours in a refrigerator.

Remove the meat and use a jerky gun to layout nice even strips of meat on metal racks for smoking. Utilizing my pellet smoker, I'm able to smoke the venison at 185 degrees for two-and-a-half hours. My final product is tender, delicious, and similar to products you might find in a store. Jerky done this way won't be shelf stable so refrigerating or freezing is necessary.

No matter how you choose to enjoy Missouri's abundant resources, getting outside to hunt, fish, or forage provides a unique and tasteful experience. ▲

Brian Flowers is a regional supervisor for MDC. He loves hunting, history, and exploring Missouri's outdoors with his wife, JoAnne.

With liberal bag limits and season length, deer hunting and tasty venison is enjoyed by many Missouri hunters.



Fly-fishing and flies are not just for trout and can be used on multiple fish species in Missouri, such as sunfish.

Learning to Fly

FLY TYING ELEVATES
YOUR GAME

by Pat Rigby
photographs by David Stonner

Missouri is a great place to fish, and fly-fishing provides unique opportunities to pursue a wide variety of species.

A pivotal part of fly-fishing is selecting the right fly. There is a seemingly endless selection of fly patterns and materials at your disposal. It's almost overwhelming. But the good news is tying flies is easy, it's fun, and with a little practice, you will quickly have a collection of unique, customized fishable lures.

BEFORE WE GET STARTED

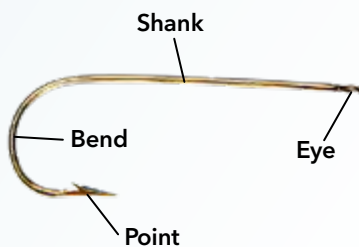
- 1 Get a basic set of fly-tying tools — vice scissors, whip finisher, bobbin, and hackle pliers. A boxed set, as pictured, provides all the tools necessary.
- 2 Identify a few fly patterns that you would like to start tying and obtain the materials.
- 3 Take a fly-tying class or watch some videos.
- 4 Tying flies is basically a series of repetitive motions, endless variations are possible based upon size and materials.
- 5 Practice new patterns a few times, and after a few attempts, flies will start taking shape, and the process will become easier.



Basic fly-tying tools and supplies

THE TOOLS

Hooks have a few parts — the eye, shank, bend, and point. Typically, the hook is secured in the jaws of the vice between the bend and point. Positioning the hook parallel to the table is preferred, the shank of the hook where most of the work will be done is flat.



To secure the thread to the hook, with a threaded bobbin, make a few wraps of thread around the shank of the hook towards the eye, then wrap the thread back over these wraps and tag the end toward the bend of the hook. Once secured, remove the remaining tag end. Practice this a few times before adding any materials.

Basic fly-tying kits will most likely have both a half hitch tool and a whip finisher. These are used when finishing a fly by tying a tight knot near the eye of the hook. Once you are comfortable with securing thread to the hook, and before adding any materials, practice with the half hitch and whip finishing tools. The whip finishing tool will take a little practice, watching a short video on how to use it will help with the learning curve.

PATTERNS

Here are fly patterns that will provide you the opportunity to use the tools and materials and practice the repetitive motion used to create flies.

Foam Spider

Materials:

Hook
Rubber Band
Foam Body
Thread



- 1 Secure the thread to the hook and wrap a thread base down the shank of the hook. Working on top of a thread base will help secure materials to the hook.
- 2 Toward the middle of the hook, place the foam body on top and secure it with several wraps of thread. As you are wrapping, increase the tension to tighten the foam body down. Lifting the back of the body, put a few wraps underneath to prevent the body from sliding down the hook.
- 3 Once the body is secured to the hook, place one or two rubber legs along the right side of the foam body and secure them with the thread. Repeat, securing rubber legs to the left side of the foam body.
- 4 Lifting the front of the foam body, place a few thread wraps underneath, wrapping to the eye of the hook. Using either the half hitch or whip finishing tool, tightly secure the finish knot and cut the thread.



Talking about fly patterns with other fly fishermen is a great way to get new ideas.



Zebra Midge

Materials:

Hook
Bead
Wire
Thread

- 1 Thread the point of the hook through the bead and slide the bead up to the eye of the hook.
- 2 Secure the thread to the hook and wrap back towards the bend. Wrapping the thread partially around the bend place the wire on the top of the hook. Wrap over the wire securing it to the fly.
- 3 Proceed to make several thread wraps from the bend of the hook to the bead, building up a tapered thread body.
- 4 Wrap the wire to the bead with 5-6 uniform wraps giving the fly segmentation. Secure the wire at the bead with a few thread wraps and cut the excess wire.
- 5 Using the thread attach a peacock herl just behind the bead. Wrap the herl 3-4 times creating a small collar behind the bead. Secure the peacock herl with the thread and remove the excess.
- 6 Using either the half hitch or whip finishing tool tightly secure the finish knot and cut the thread.





Crackleback

Materials:

Hook
Hackle
Peacock Herl
Yarn
Thread

- 1 Secure the thread to the hook and wrap a thread base down the shank of the hook. Working on top of a thread base will help secure materials to the hook.
- 2 At the back of the shank, secure the peacock herl with a few wraps of thread, then add the yarn and hackle, each with a few thread wraps.
- 3 Wrap the thread to the eye of the hook, then wrap the yarn to the eye of the hook and secure it with a few thread wraps.
- 4 Lay the peacock herl across the top of the shank and secure it at the eye with a few thread wraps. Do not wrap the peacock around the hook shank.
- 5 Wrap the hackle using uniform spacing to the eye of the hook and secure it with a few thread wraps.
- 6 Using either the half hitch or whip finishing tool, tightly secure the finish knot and cut the thread.

Hackle comes in different sizes and types, research what type of hackle is best for the patterns you've chosen.



Elk Hair Caddis

Materials:

Hook
Hackle
Dubbing
Elk Hair
Thread

- 1 Secure the thread to the hook and wrap a thread base down the shank of the hook. Working on top of a thread base will help secure materials to the hook.
- 2 At the back of the shank, secure the hackle with a few thread wraps.
- 3 Pull a small amount of dubbing out and twist it onto the thread, making a thin "noodle."
- 4 Wrap the thread and dubbing two-thirds of the way up the hook shank toward the eye.
- 5 Wrap the hackle with uniform spacing 4-5 times over the thread/dubbing body to provide segmentation. Wrap the hackle with a few thread wraps and cut off the excess.
- 6 Cut 8-10 strands of elk hair and insert the uncut ends down into the hair stacker. Tap the stacker a few times to line up the fibers.
- 7 Remove the hair from the stacker and secure it to the top of hook shank. The fine uncut ends should just extend over the back of the hook. Using loose wraps and progressively getting tighter will help secure the hair.
- 8 Creating a small head, cut the ends of the hair in front of the hook eye.
- 9 Using either the half hitch or whip finishing tool, tightly secure the finish knot and cut the thread.



Woolly Bugger

Materials:

Hook
Marabou
Hackle
Chenille/Yarn
Thread

- 1 Secure the thread to the hook and wrap a thread base down the shank of the hook. Working on top of a thread base will help secure materials to the hook.
- 2 Creating a tail, lay a marabou feather on top of the shank extending past the hook bend. The tail should be the same length as the hook shank. Secure it with wraps of thread.
- 3 Secure the hackle with a few wraps of thread, then repeat the process securing the yarn/chenille.
- 4 Wrap the thread to the eye of the hook, then wrap the yarn/chenille toward the hook eye and secure it with thread and cut off the excess.
- 5 Wrap the hackle with uniform spacing towards the eye of the hook, secure it with thread and cut off the excess.
- 6 Using either the half hitch or whip finishing tool, tightly secure the finish knot and cut the thread.



Fly tying can be another tool in your tackle box and empower you to catch more fish. It can also keep you engaged in fishing during the off season. You can use the long winter months to research new patterns, experiment with your own creations, and collect natural materials from the wild, like feathers and fur, to use on your next lure. ▲

Pat Rigby works in IT in MDC's Northeast Region. He is an avid angler and fly-tier.

Elk hair

Get Outside

in **DECEMBER**

→ Ways to connect with nature

VIRTUAL

Native Plants

Thursday • Dec. 16 • 12-1 p.m.

Virtual event at Anita B. Gorman Conservation Discovery Center,
4750 Troost Ave., Kansas City, MO 64110

Registration required at the Deep Roots website at
deeproots.org/native-plants-at-noon

Virtually tour the native landscape at MDC's Anita B. Gorman Conservation Discovery Center. Guided by native landscape specialists Alix Daniel and Cydney Ross, this monthly series features a live look at native plants of interest throughout the year. This program is a partnership with Deep Roots.



Sharp-shinned hawk



Mourning cloak butterfly

Shivering Butterfly

Adult mourning cloak butterflies overwinter and may be seen flying on warm winter days. They need a body temperature of about 65 degrees to be able to fly, and most butterflies bask in the sunlight to raise their body temperature. But mourning cloaks can truly shiver, rapidly contracting muscles with only minimal wing movement. This can raise their temperature 15–20 degrees in just a few minutes.

Natural Events to See This Month

Here's what's going on in the natural world.



Eastern gray squirrels start mating.



American beavers swim under water.



On warm winter days, raccoons sun on limbs and other high spots.

Deck Out Nature

If the holiday season has you in the mood to decorate, why not spread some of that holiday cheer in nature? For outdoor holiday decorating, eastern red cedar is a great choice. It is abundant, it has a beautiful natural juniper scent, and boughs of female trees are naturally adorned with blue, berrylike fruits. For more information about this cedar, visit the online *Field Guide* at short.mdc.mo.gov/ZFJ.

Unwelcome Visitor

Accipiters, including the Cooper's and sharp-shinned hawks, are hawks that specialize in hunting other birds. Their slender bodies, long tails and legs, and short broad wings give them breathtaking speed and maneuverability in catching birds among leaves and tree branches. They are naturally drawn to areas where their prey abound, so they often learn to hunt birds attracted to backyard bird feeders. If a hawk is hunting birds drawn to your bird feeder, and you don't like it, take down your feeders for a few days and the hawk will move somewhere else. For more backyard bird feeding tips, visit short.mdc.mo.gov/ZFU.

Uncommon Visitor

Snowy owls occasionally visit Missouri in the winter, generally in years when food runs low in their arctic range. Thus, most of the snowy owls seen are immature, forced south for lack of food. Peak numbers in Missouri occur about every four years in response to lemming population crashes in far north.

Snowy owl



JOIN THE CHRISTMAS BIRD COUNT

Do you know your birds by sight and sound?
Do you own lots of warm clothes?
Join the Christmas Bird Count and add to a nationwide citizen science project! There are over 20 Christmas Bird Counts in Missouri alone. If you know your birds well, consider participating.

To learn more, visit
tinyurl.com/ybropbvq



**DRESS WARMLY! TAKE SNACKS!
BIRDS ARE AWESOME!**

Places to Go

SOUTHEAST REGION

Cape Girardeau Conservation Nature Center

Coming in from the cold

by Larry Archer

✱ With proper planning, the outdoors in winter has much to offer, but if a person is looking to come in from the cold, Cape Girardeau Conservation Nature Center (CNC) has plenty to help visitors connect with nature while remaining warm indoors.

Located on nearly 80 acres on the city's northwest edge, Cape Girardeau CNC has approximately 20,000 square feet of exhibition, activity, and auditorium space dedicated to keeping people in touch with the outdoors, said Cape Girardeau CNC Manager Laci Prucinsky.

"When a lot of our exhibits were set up, they looked at the natural and cultural history of southeast Missouri," Prucinsky said. "So, there are things like Native American artifacts, 1900s trappers' cabins, a crawl-through beaver lodge, and a host of interactive exhibits about the different things that you can do outdoors — hunting, fishing, birdwatching, and things like that."

On those warmer winter days, the center offers approximately 3 miles of trails, including a trip around Wood Duck Swamp, which was constructed from previous sewage lagoons to illustrate a swamp habitat, she said.

"It shows that highly altered landscapes can be transformed back into something natural that supports a variety of species on land and in the water," she said.



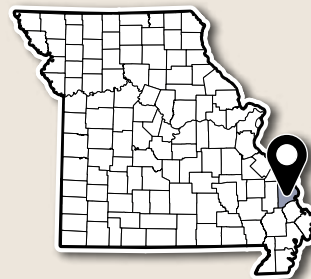
"The trail's fairly hilly; it's all river drainage, so it's all highly bisected hills. It's a lot of up and down."

—Cape Girardeau Conservation
Nature Center Manager
Laci Prucinsky

DAVID STONNER



The Cape Girardeau Conservation Nature Center offers more than 20,000 square feet of exhibition, activity, and auditorium space. The area's Wood Duck Swamp draws a variety of shore and wading birds, such as the great blue heron (inset).



CAPE GIRARDEAU CONSERVATION NATURE CENTER

Located within the north portion of the Cape Girardeau County Park, just east of Interstate 55 (Exit 99). Take Kings Highway (State Highway 61) east 0.25 mile to the park and nature center.

37.3446, -89.5932

short.mdc.mo.gov/ZT9

573-290-5218

WHAT TO DO WHEN YOU VISIT



Birdwatching Included in the Great Missouri Birding Trail (short.mdc.mo.gov/ZH9). The eBird list of birds recorded at Cape Girardeau Conservation Nature Center is available at short.mdc.mo.gov/ZHj.



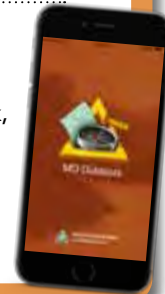
Fishing Sunfish, catfish, crappie, black bass. Limited to children 15 years old or younger.



Hiking Approximately 3 miles of hiking trails, including the 0.3-mile, ADA-accessible Ridgetop Trail.

DISCOVER MO OUTDOORS

Users can quickly and easily find outdoor activities close to home, work, or even while traveling with our free mobile app, MO Outdoors. Available in Android or iPhone platforms at mdc.mo.gov/mooutdoors.



WHAT TO LOOK FOR WHEN YOU VISIT



Northern cardinal



Virginia opossum



Belted kingfisher



Raccoon



Northern Flicker

Colaptes auratus

Status
Common

Size
Length: 12½ inches

Distribution
Statewide

Adult northern flickers are brown with small black bars, and whitish underneath with black spots. Their head is tan with a gray crown. Males have a black moustachial mark. A black crescent separates the spotted breast from the clear tan throat. Because northern flickers need dead wood — standing or on the ground — for nesting and foraging areas, they are commonly seen in woodlands, parks, farmland, and suburbs. Their call is a sharp descending whistle. The courtship vocalization, *wicka-wicka-wicka-wicka*, is very similar to that of the pileated woodpecker, but it lacks the resonance and volume.



Did You Know?

Flickers excavate nest cavities in dead trees or branches of live trees. Other species, such as squirrels, eastern screech-owls, and American kestrels, depend on these old nest cavities for their own nests.



LIFE CYCLE

Northern flickers nest in snags, poles, posts, houses, banks, and haystacks. In Missouri, they produce one brood a year. The clutch, consisting of five to eight eggs, incubates for 11-14 days and the young fledge 25-28 days afterward.



FOODS

Northern flickers forage for fruits, nuts, and insects, but a large part of their diet consists of ants, which they capture on the ground.



HUMAN CONNECTIONS

Northern flickers, like other woodpeckers, delight humans with their presence at bird feeders, particularly when suet is offered. Because of their appetite for ants and other ground-dwelling insects, flickers serve as nature's pest control.

Outdoor Calendar

❖ MISSOURI DEPARTMENT OF CONSERVATION ❖

Lifetime permits make great gifts!

For more information, call 573-522-0107 or email lifetime.permit@mdc.mo.gov

FISHING

Black Bass

Impounded waters and non-Ozark streams:
Open all year

Most streams south of the Missouri River:

- ▶ Catch-and-Keep:
May 22, 2021–Feb. 28, 2022

Nongame Fish Gigging

Streams and Impounded Waters,
sunrise to midnight:
Sept. 15, 2021–Feb. 15, 2022

Paddlefish

On the Mississippi River:
Sept. 15–Dec. 15, 2021

Trout Parks

Catch-and-Release:
Nov. 12, 2021–Feb. 14, 2022

TRAPPING

Beaver, Nutria

Nov. 15, 2021–March 31, 2022

Other Furbearers

Nov. 15, 2021–Jan. 31, 2022

Otters, Muskrats

Nov. 15, 2021–Feb. 20, 2022

Rabbits

Nov. 15, 2021–Jan. 31, 2022

HUNTING

Coyote

Restrictions apply during April, spring turkey season, and firearms deer season.

Open all year

Crow

Nov. 1, 2021–March 3, 2022

Deer

Archery:

Nov. 24, 2021–Jan. 15, 2022

Firearms:

- ▶ Antlerless Portion (open areas only):
Dec. 4–12, 2021
- ▶ Alternative Methods Portion:
Dec. 25, 2021–Jan. 4, 2022

Elk*

Firearms:

Dec. 11–19, 2021

Groundhog (woodchuck)

May 10–Dec. 15, 2021

Other Furbearers

Nov. 15, 2021–Jan. 31, 2022

Pheasant

Nov. 1, 2021–Jan. 15, 2022

Quail

Nov. 1, 2021–Jan. 15, 2022

Rabbit

Oct. 1, 2021–Feb. 15, 2022

Squirrel

May 22, 2021–Feb. 15, 2022

Turkey

Archery:

Nov. 24, 2021–Jan. 15, 2022

Waterfowl

See the Migratory Bird and Waterfowl Hunting Digest or visit short.mdc.mo.gov/ZZx for more information.

Wilson's (Common) Snipe

Sept. 1–Dec. 16, 2021



ILLUSTRATION: MARK RATHHEL

**Only hunters selected through a random drawing may participate in this hunting season.*

For complete information about seasons, limits, methods, and restrictions, consult the *Wildlife Code of Missouri* at short.mdc.mo.gov/Zib. Current hunting, trapping, and fishing regulation booklets are available from local permit vendors or online at short.mdc.mo.gov/ZZf.



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@moconservation

If Jack Frost is nipping at your nose — and most of your face — as this deer is experiencing, brush him aside and get on with your day. Who knows what you'll discover in nature's winter wonderland!

📷 by **David Stonner**

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